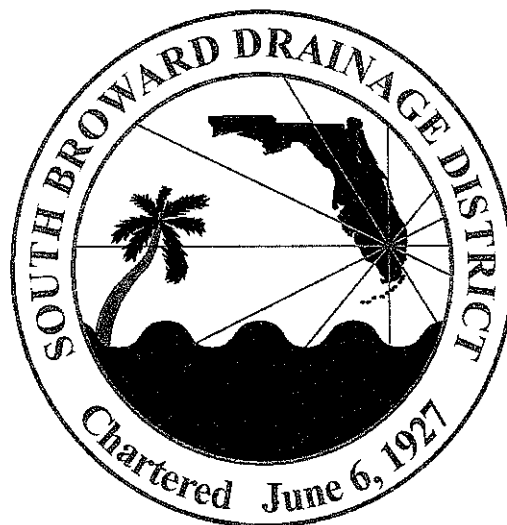


# **SOUTH BROWARD DRAINAGE DISTRICT**

## **DREDGING / SHORELINE RESTORATION**

### **PROJECT DOCUMENTS**



**MAY 2011**

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**PROJECT NAME:**

SBDD DREDGING / SHORELINE RESTORATION PROJECT

**GENERAL PROJECT DESCRIPTION:**

DREDGING SILT/SAND/MATERIAL AND FILLING TWO (2) GEO-TEXTILE TUBES PER SITE FOR EROSION CONTROL PURPOSES.

**LOCATIONS:**

1. 7981 N.W. 13<sup>th</sup> STREET, PEMBROKE PINES
2. 8260 N.W. 17<sup>th</sup> COURT, PEMBROKE PINES
3. 8770 N.W. 17<sup>th</sup> COURT, PEMBROKE PINES

**INVITATION TO BID:**

Sealed Bids will be accepted until 3:00 p.m., **Tuesday, May 17, 2011**. The bids will be opened publicly at 3:15 p.m. Bids are to be labeled with both the **name of your company** and **"SBDD Dredging/Shoreline Restoration Project"** on the package and delivered to:

**Joseph Certain  
South Broward Drainage District  
6591 S.W. 160<sup>th</sup> Ave.  
Southwest Ranches, FL 33331**

**QUALIFICATIONS OF BIDDERS:**

Bidders must have at least five (5) years of Dredging/Shoreline Restoration and textile tube experience. The Owner shall have the sole authority to determine if the nature of the previous projects and the Contractor's role in the previous projects satisfy the intent of this paragraph.

**IMPORTANT PRE-BID INFORMATION:**

All potential bidders must contact Joe Certain for a **mandatory site visit**. A bid submitted without site location visit with the District will not be accepted. The last site visit will be **Friday, May 13, 2011 at 1:00 p.m.**

**GENERAL:**

The work involved for the project shall include, but may not be limited to, the purchase and furnishing of all labor, materials, tools, equipment, machinery, superintendence mobilization and services necessary for the complete installation of the dredging/shoreline restoration as indicated.

Turf reinforcement materials are to be included as a means to provide protection for the new sod that is to be placed on the finished grade.

## **I** **SCOPE OF WORK**

- A. Remove all trash and debris along shoreline and in the water of the construction site.
- B. Level construction site for proper installation of tubes.
- C. Layout the polypropylene fabric and anchors at 1.5' intervals in preparation for the polypropylene tube installation.
- D. Steel rods (#5) shall be used for anchoring and shall be kept in place for the duration of construction. Rods must be long enough to keep material in place. The rods must be removed or buried so that they are not exposed after construction.
- E. Install two (2) barrier tubes per site, 7.5' in circumference for a distance of 100'. Tube Material Specifications. (Page 16)
- F. Refer to diagram on Detail sheet, pages 12 - 15, and specifications on construction and installation of barrier tubes / backfill voids.
- G. All material for filling the tube must come from the center of the canal, specific location to be identified. (Pages 12 - 15)
- H. Remove and dispose off site, of all trash that cannot be properly dredged.
- I. Construction site must be graded to a maximum 3 to 1 slope, sodded with Bahia, pinned and watered.

## **II** **SCHEDULE**

- A. Work under this Agreement must be performed during the following hours: **8:00 A.M. through 4:00 P.M., Monday through Friday.** Weekend, holiday and extended work hours work will require approval by the District.
- B. The Contractor, prior to commencement of any work under this Project, shall secure approval from the District, of access routes for performing the work as described in this project.
- C. Upon receipt of a written notice to proceed; the Contractor agrees to commence with the specified work within ten (10) days and to faithfully prosecute the same in a continuous and uninterrupted manner and to complete the same in all respects in accordance with the Project documents in no more than thirty (30) working days from the commencement date.

The Owner and the Contractor recognize that time is of the essence in this Agreement and that the Owner will suffer financial loss if the work is not completed within the schedule specified in this Agreement, plus any extensions

thereof allowed in accordance to the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal proceeding, the actual loss suffered by the owner if the work is not completed on time. Accordingly, the owner and contractor agree that as liquidated damages and for delay (but not as a penalty) the contractor shall pay the owner five hundred dollars (\$500.00) for each consecutive calendar day after the completion date specified in this Agreement until the work is complete. The owner shall have the right to deduct from the final payment all such amounts with the Contractor being liable to the owner for any deficiency. For the purpose of this clause "completion" shall mean the date on which the last element of the construction work performed by the contractor pursuant to this Agreement is approved by the owner in writing.

- D. ***Pre-work conference will be held, time/date to be announced.***
- E. Call for utility locations 48 hours before digging (Sunshine One Call Center - 1-800-432-4770).

### III **GENERAL**

- A. The Contractor has agreed, and by these presence, does hereby agree with the District that he will duly perform, carry out and be bound by each and every one of the terms, provisions, conditions and covenants as set out and contained in this Project document for the consideration herein mentioned, at his own cost and expense, to furnish all equipment, tools, materials and labor of every description necessary for and to carry out and complete in a good, firm, substantial and workman-like manner the work described in this Project document.
- B. The Contractor affirms that he has all necessary licenses, registrations and certifications to legally perform the work required under this Project and the necessary approved documents from all applicable government agencies. The Contractor hereby agrees that it is the Contractor's absolute responsibility to comply with each and every requirement of any and all such licenses, certificates and registrations.
- C. The Contractor affirms, and by these presence does affirm, that he has visited and examined the Project site and has fully informed himself of the conditions that exist throughout the project site. He further declares that he has examined the Project package and fully familiarized himself with the said Documents and also any local, State, County, and Federal laws pertaining to this project.
- D. The Contractor shall provide turbidity barriers both upstream and downstream of each culvert to minimize turbidity in the District's stormwater drainage system. The cost for the installation and removal of the turbidity barriers shall be included in the total lump sum price for the project.

- E. The Contractor agrees that he will not transfer or assign this Project without written approval from the District (which may be arbitrarily withheld).
- F. The Contractor agrees that during the progress of said work, he will, at all times, comply with the safety requirements of OSHA.
- G. The Contractor does hereby save and hold harmless the District, District's agents and employees from any liability, damages, costs, or expenses, including but not limited to attorneys' fees and court costs, through all trial and appellate levels arising out of any injury to persons or property sustained by reason of the default or neglect of the Contractor to properly comply with any of the above safety requirements or other governmental requirements necessary to complete the work, or in consequence of, any neglect in safeguarding the work or through the use unsuitable materials in the construction of the improvement, or by, or on account of, any act or omission, neglect or misconduct of the Contractor, or by, or on account of, any claims or amounts recovered for any infringement of patent, trademark, or copyright or from any claims or amounts arising or recovered under the "Worker's Compensation Law" or any other laws, by-laws, ordinances, order or decree, or arising or resulting from the work or actions of Contractor (or any employees, subcontractors, agents or invites) performed in connection with this Project.
- H. In compliance with the applicable provisions of the Rules of the Florida Department of Commerce, Chapter 8C-26 through Chapter 8C-41, or as amended, the Contractor shall provide adequate and sufficient barricades and maintain safe conditions at the job site at all times until the District accepts and signs off on the work performed.
- I. Contractor shall protect pets, livestock, horses and preserve private property and shall restore, as required, all private property, where applicable, to its original condition (as it was prior to commencement of the project).
- J. Contractor shall be responsible for all above and below ground utility identification as required.
- K. The Contractor must provide, at all times, while work is being performed in the field, a representative who can communicate in English.
- L. This agreement includes Acknowledgment Of Conformance With O.S.H.A. Standards" (Page 11).
- M. The rate of wages of all laborers, mechanics and apprentices employed by the Contractor or any subcontractor on the work covered by this Contract shall not be less than the prevailing rates for wages for similar skills or classifications.
- N. Gender Statement: Wherever the pronoun "he" is used in this document, it refers to all genders.

#### **IV     PAYMENT**

- A.     Upon faithful performance of this Project work in all respects by the Contractor, including providing all dump tickets, the District agrees to pay the Contractor for all items of work performed and materials furnished and included in the agreed upon price.
- B.     The District agrees to pay the Contractor and the Contractor agrees to accept as full compensation upon satisfactorily completing the Project the amount specified on the bid proposal form (Page 10).
- C.     If the Contractor is in full compliance with the terms and conditions of this Project document, the Contractor will be paid one hundred percent (100%) of the value of the work completed in a good and workmanlike manner in accordance with the terms and provisions of the Project documents. In no event shall the District be required to pay any progress payments.
- D.     The Contractor shall submit an affidavit verifying any and all monies owed to suppliers or subcontractors for services or material related to this project. No payment shall be due in any case within less than 48 hours after the submittal of the affidavit. Upon receipt of payment, the Contractor shall furnish the District with a final Release of Lien for the work completed. In addition, the Contractor acknowledges that the District may, at the sole discretion of the District, issue joint checks to the Contractor and his suppliers and subcontractors for all applicable monies owed as agreed upon by District & Contractor.

#### **V     INSURANCE**

- A.     The Contractor shall, at his own expense, purchase and maintain such insurance as will protect the District and the Contractor from any claims under workers' compensation laws; disability benefit laws or other similar employee laws; from claims for damages because of bodily injury, occupational sickness or disease, or death of his employees or any person other than his employees including claims insured by usual personal injury liability coverage; from claims for injury to or destruction of tangible property including loss of use resulting there from any or all of which may arise out of or result from the Contractor's operations under the Project documents, whether such operations be by any subcontractor or anyone directly or indirectly employed by any of them or for whose acts may be legally liable.
- B.     Said insurance shall include all major divisions of coverage and be on a comprehensive basis including:
  - 1.     Premises Operations (including X, C and U coverage as applicable).
  - 2.     Independent Contractor's Protective (minimum 1 year coverage)
  - 3.     Products and Completed Operations.

4. Personal Injury Liability with Employment Exclusion Deleted
  5. Contractual Liability
  6. Owned, non-owned and hired motor vehicles.
  7. Broad Form Property Damage including Completed Operations.
- C. The limits of said insurance shall provide coverage for not less than the following amounts:
1. Workers' Compensation, etc. **(Required. Exempt status will not be accepted)**
    - a. State Statutory
    - b. Applicable Federal  
(e.g. Longshoreman's and/or Maritime) Statutory
    - c. Employer's Liability
      - \$ 100,000.00 /by accident –  
each accident
      - \$ 100,000.00 /by disease –  
employee
      - \$ 500,000.00 /by disease –  
policy limits
  2. Contractor's Liability Insurance which will also include completed operations, product liability coverage, elimination of the exclusion with respect to property under the care, custody and control of the Contractor and; independent contractors; contractual broad form property damage:
    - a. General Aggregate (Except  
Products -Completed Operations) \$ 2,000,000.00
    - b. Products - Completed Operations  
Aggregate \$ 1,000,000.00
    - c. Personal and Advertising Injury  
(Per Person/Organization) \$ 1,000,000.00
    - d. Each Occurrence (Bodily Injury  
and Property Damage) \$ 1,000,000.00
    - e. Property Damage liability insurance will provide Explosion,  
Collapse and Underground coverage where applicable.

f. Excess Liability  
General Aggregate \$ 2,000,000.00

Each Occurrence \$ 2,000,000.00

g. Fire Damage (Any one fire) \$ 50,000.00

3. Automobile Liability

a. Bodily Injury:  
Each Person \$ 1,000,000.00  
Each Accident \$ 2,000,000.00

b. Property Damage:  
Each Occurrence \$ 1,000,000.00

OR

c. Bodily Injury and Property Damage  
Combined Single Limit:  
  
Each Occurrence \$ 2,000,000.00  
Aggregate \$ 2,000,000.00

4. The Contractual Liability coverage required shall provide coverage for not less than the following amounts:

a. General Aggregate \$ 3,000,000.00

b. Bodily Injury and Property Damage  
Combined Each Occurrence \$ 3,000,000.00

5. Acceptance of a Certificate of Insurance by District for coverage of limits less than specified herein shall not waive the requirements of this section or reduce the Contractor's liability below the limits specified herein.

a. Liability coverage for the District shall be provided by endorsement as an additional insured on the Contractor General Liability Policy. Add the District as follows:

District: South Broward Drainage District  
6591 Southwest 160 Avenue  
Southwest Ranches, Florida 33331

D. Subject to any limitations which may be provided by Florida Statutes, Section 725.06, the Contractor shall indemnify and hold harmless the Owner for liability for damages to persons or property caused in whole or in part by any act,

omission or default of the Owner arising from the Agreement or its performance, an amount which shall not be less than \$1,000,000.00 per occurrence. Pursuant to Florida Statutes Section 725.06(2), the Contractor shall indemnify and hold harmless the Owner, its officers and employees, from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the Contractor and persons employed or utilized by the Contractor in the performance of the contract.

- E. It is understood and agreed that insurance coverage required herein shall specifically include, any claim for damages for personal injury, including wrongful and accidental death, and property damages which may arise by reason of the Contractor, its agent or representatives or subcontractors, depositing spoil material on lands within the Project limits and/or on property located adjacent to the Project limits.
- a. Prior to commencing the Work, the Contractor shall procure and maintain at its own expense, until one year after completion and final acceptance of the Work, the following insurance that shall protect the Contractor from and indemnify and hold harmless the Owner from:
1. Any claims under Workers Compensation, disability benefits, and other similar employee benefit acts.
  2. Any claims for damage because of bodily injury, sickness, disease or death of any person other than his employees.
  3. Any claims under products and completed operations coverage.
  4. Any claim for damages insured by usual personal liability coverage which are sustained by (1) any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor or (2) by any other person.
  5. Any claim for damages because of injury to, or destruction of tangible property including loss of use resulting therefrom.
    - a. The Contractor shall provide: Workers Compensation and employer's liability insurance in accordance with the laws of the State of Florida. Exempt status will not be accepted.
    - b. Prior to commencing the work, the Contractor shall furnish certificates from all insurance companies showing the above insurance in force, stating policy number, dates of expiration and limits of liabilities thereunder and copies of all insurance policies.
    - c. The Contractor agrees that neither he nor his insurance

company will subrogate any loss or claim to the Contractor's equipment or personnel against the Owner and further providing that the insurance will not be canceled or changed prior to at least thirty (30) days after written notice of such cancellation or change has been mailed to the Owner and showing the Owner as a loss payee under such policies.

- F. At the request of the District, the Contractor shall provide copies of all insurance for District's review.

## BID FORM

**PROJECT: SBDD DREDGING / SHORELINE RESTORATION PROJECT**

The undersigned hereby declares that he has examined the site work and has fully informed himself with the conditions that exist at the project site. He further declares that he has examined all Project Documents and fully familiarized himself with the said Documents and also any Local, State, County, and Federal laws pertaining to this project.

The undersigned certifies that this proposal is made without any collusion or fraud and not in connection with any other person, partnership, corporation or company making a proposal for this same project.

The undersigned, as Bidder, hereby declares that the only person or persons interested in the bid as Principal or Principals is or are named herein and that no other person than herein mentioned has any interest in this Bid or in the Agreement to be entered into; that this Bid is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud.

It is understood by the Bidder that any site in its entirety may be deleted from the Contract or Contracts awarded and that separate Contracts may be awarded for each separate site. Only one (1) Contract will be awarded for each site. The Bidder agrees that, if awarded a Contract for one or more sites, he will sign the Contract Documents within ten (10) calendar days of the date on the Notice of Award; that he will commence the work on the date stated in the Notice to Proceed; and that he will complete the work for each site awarded within ten (10) working days per site, from the date stated in the Notice to Proceed.

The undersigned hereby proposes to furnish all labor, equipment and materials necessary to complete the work in strict accordance with the Bid Documents and all addendums, if issued, for the price shown below.

**PRICE FOR:**    **Location #1**    \$ \_\_\_\_\_                      **Location #2**    \$ \_\_\_\_\_

**Location #3 \$** \_\_\_\_\_

**TOTAL LUMP SUM PRICE FOR ALL THREE (3) SITES: \$**\_\_\_\_\_

COMPANY NAME: \_\_\_\_\_ PHONE #: \_\_\_\_\_

EMAIL ADDRESS: \_\_\_\_\_

COMPANY ADDRESS: \_\_\_\_\_

Signature of Owner or Authorized Representative

Print Name \_\_\_\_\_

Date \_\_\_\_\_

SBDD reserves the right to accept or reject any and/or all bids or parts of bids, to waive any informality, irregularities or technicalities, to re-advertise for bids, or take any other actions that may be deemed to be in the best interest of SBDD. SBDD also reserves the right to award the contract on a split order basis, group by group, or item by item, or such combination as will best serve the interests of the District. SBDD also reserves the right to waive minor variations to the specifications. Final award of Bid(s) shall be made by the SBDD Board of Commissioners.

ACKNOWLEDGMENT OF CONFORMANCE

WITH O.S.H.A. STANDARDS

**TO THE SOUTH BROWARD DRAINAGE DISTRICT:**

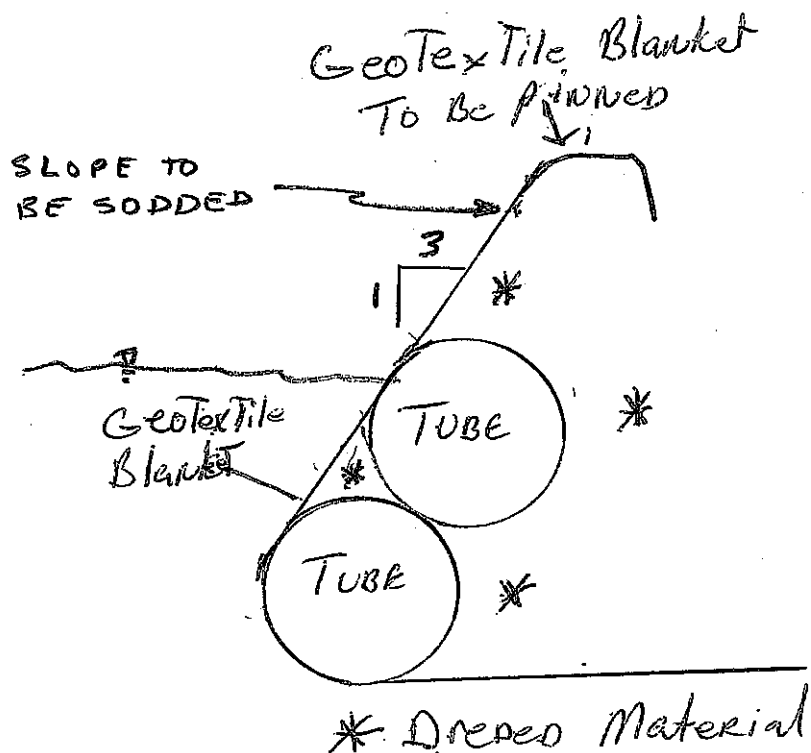
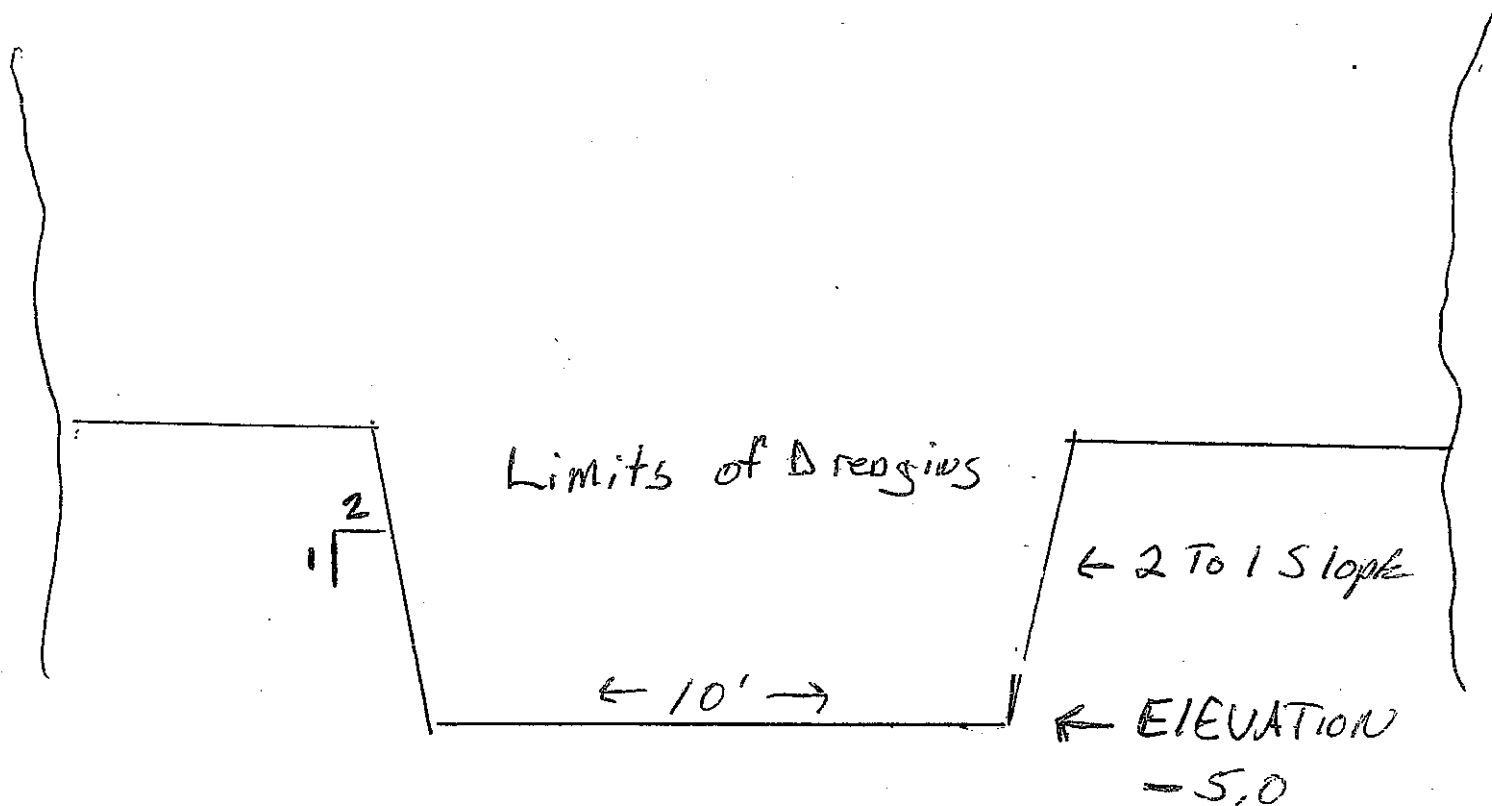
\_\_\_\_\_, hereby acknowledge and agree that as Contractor for the South Broward Drainage District, that we have the sole responsibility for compliance with all requirements of the Federal Occupational Safety and Health regulations, and agree to indemnify and hold harmless the South Broward Drainage District, against any and all legal liability or loss the District, its employees or agents, may incur due to \_\_\_\_\_ failure to comply with such act.

\_\_\_\_\_  
ATTEST

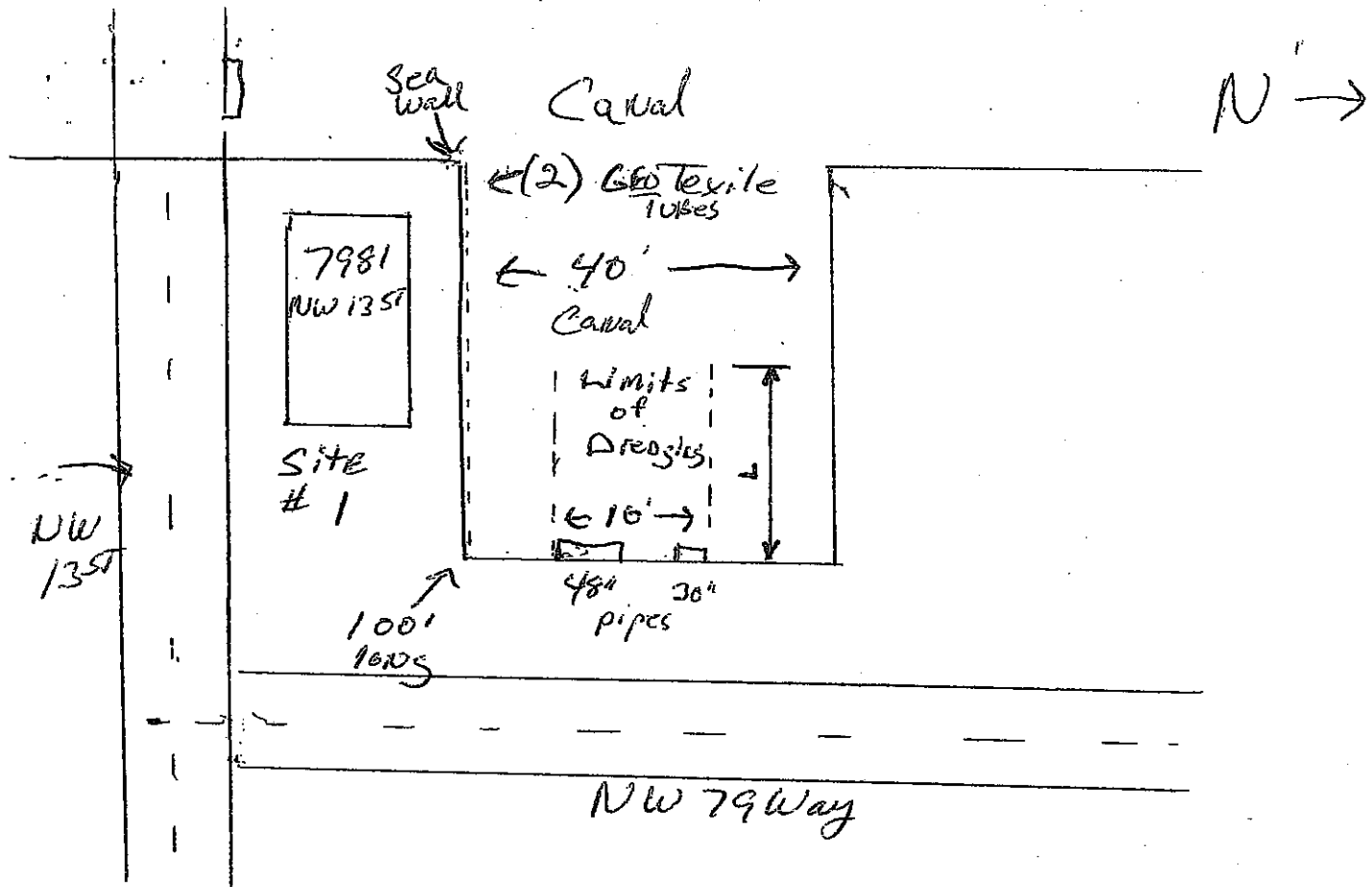
\_\_\_\_\_  
CONTRACTOR

BY: \_\_\_\_\_

DATE: \_\_\_\_\_

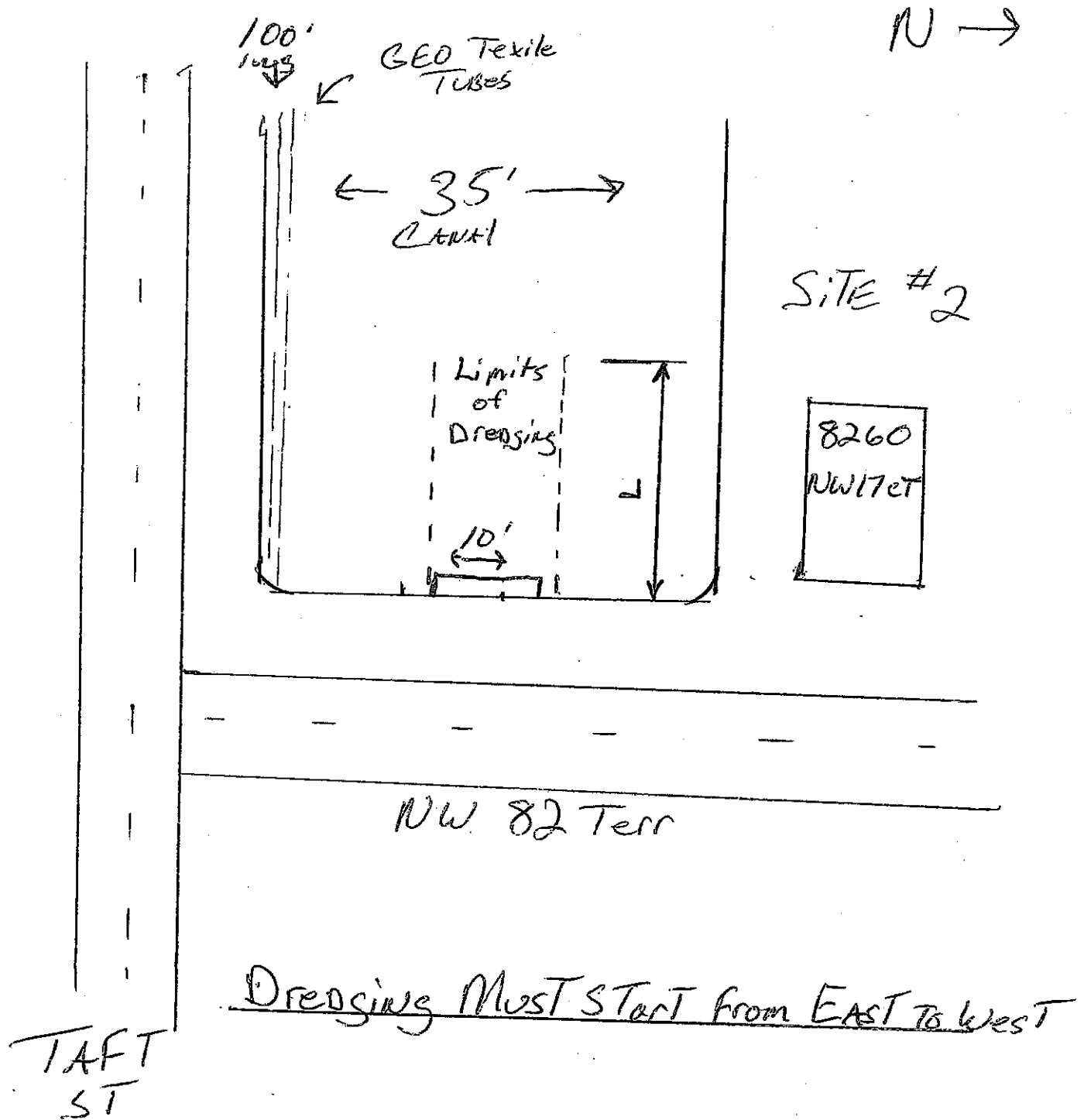


- \* THE LENGTH OF THE DREDGING SHALL EXTEND TO THE DISTANCE REQUIRED TO FILL TWO(2) ROWS OF TUBES FOR A DISTANCE OF 100'.



Dredging Must Start From East To West

L = LINEAR FOOT LIMIT  
OF DREDGING AND  
SHALL EXTEND TO THE  
DISTANCE REQUIRED  
TO FILL TWO (2) ROWS  
OF TUBES FOR A  
DISTANCE OF 100 FEET.



L = LINEAR FOOT LIMIT  
OF DREDGING AND  
SHALL EXTEND TO THE  
DISTANCE REQUIRED  
TO FILL TWO (2) ROWS  
OF TUBES FOR A  
DISTANCE OF 100 FEET.

← N

Site  
#3  
8770  
NW 17th

← 45' →  
Canal

(2) GEOTextile  
Tubes

100' →  
100'

Limits  
of  
Dredging

← 10' →

↑  
Start  
↓  
45'  
Rip  
Rap  
↓

NW 88th

Dredging Must Start West To East

L = LINEAR FOOT LIMIT  
OF DREDGING AND  
SHALL EXTEND TO THE  
DISTANCE REQUIRED  
TO FILL TWO (2) ROWS  
OF TUBES FOR A  
DISTANCE OF 100 FEET.

↑  
TAXT ST

# TENCATE Mirafi



## Mirafi® FW404

Mirafi® FW404 is composed of high-tenacity polypropylene monofilament yarns, which are woven into a stable network such that the yarns retain their relative position. Mirafi® FW404 is inert to biological degradation and resistant to naturally encountered chemicals, alkalis, and acids.

| Mechanical Properties          | Test Method | Unit                                               | Minimum Average Roll Value |            |
|--------------------------------|-------------|----------------------------------------------------|----------------------------|------------|
|                                |             |                                                    | MD                         | CD         |
| Wide Width Tensile Strength    | ASTM D 4595 | kN/m (lbs/ft)                                      | 44 (3000)                  | 40 (2760)  |
| Grab Tensile Strength          | ASTM D 4632 | kN (lbs)                                           | 1.78 (400)                 | 1.40 (315) |
| Grab Tensile Elongation        | ASTM D 4632 | %                                                  | 15                         | 15         |
| Trapezoid Tear Strength        | ASTM D 4533 | kN (lbs)                                           | 0.67 (150)                 | 0.73 (165) |
| Mullen Burst Strength          | ASTM D 3786 | kPa (psi)                                          | 5506 (800)                 |            |
| Puncture Strength <sup>1</sup> | ASTM D 4833 | kN (lbs)                                           | 0.67 (150)                 |            |
| CBR Puncture Strength          | ASTM D 6241 | kN (lbs)                                           | 5.115 (1150)               |            |
| Apparent Opening Size (AOS)    | ASTM D 4751 | mm<br>(U.S. Sieve)                                 | 0.425<br>(40)              |            |
| Percent Open Area              | COE-02215   | %                                                  | 1                          |            |
| Permittivity                   | ASTM D 4491 | sec <sup>-1</sup>                                  | 0.90                       |            |
| Permeability                   | ASTM D 4491 | cm/sec                                             | 0.068                      |            |
| Flow Rate                      | ASTM D 4491 | l/min/m <sup>2</sup><br>(gal/min/ft <sup>2</sup> ) | 2852<br>(70)               |            |
| Abrasion Resistance            | ASTM D 4886 | % retained                                         | 60 (typical)               |            |
| UV Resistance (at 500 hours)   | ASTM D 4355 | % strength retained                                | 90                         |            |

<sup>1</sup> ASTM D 4833 has been replaced with ASTM D 6241

| Physical Properties              | Test Method | Unit                                   | Typical Value       |
|----------------------------------|-------------|----------------------------------------|---------------------|
| Mass/Unit Area                   | ASTM D 5261 | g/m <sup>2</sup> (oz/yd <sup>2</sup> ) | 271 (8.0)           |
| Thickness                        | ASTM D 5199 | mm (mils)                              | 0.89 (35)           |
| Roll Dimensions (width x length) | --          | m (ft)                                 | 4.5 (15) x 91 (300) |
| Roll Area                        | --          | m <sup>2</sup> (yd <sup>2</sup> )      | 418 (500)           |
| Estimated Roll Weight            | ---         | kg (lbs)                               | 120 (265)           |